DOCUMENT RESUME

ED 461 201 EC 305 863

AUTHOR	Le Storti, Anthony J.
TITLE	Developing Thinking in the Gifted. PAGE Bulletin.
INSTITUTION	Pennsylvania Association for Gifted Education, Norristown.
PUB DATE	1997-00-00
NOTE	8p.; For full text: http://www.penngifted.org/.
AVAILABLE FROM	Available on the Internet at http://www.eskimo.com/~user/pabull3.html.
PUB TYPE	Guides - Non-Classroom (055)
EDRS PRICE	MF01/PC01 Plus Postage.
DESCRIPTORS	Abstract Reasoning; *Cognitive Development; Creative Thinking; Critical Thinking; Educational Environment; Elementary Secondary Education; Family Environment; *Gifted; *Metacognition; Personality Traits; *Questioning Techniques; *Thinking Skills

ABSTRACT

This bulletin offers guidelines to help parents and teachers improve the thinking skills of gifted children. It stresses the importance of encouraging thinking through the use of evocative questions, distinguishes between and defines critical thinking and creative thinking, and offers suggested questions to prompt either creative/divergent thinking or critical/analytical thinking. The need to foster such traits as persistence, open-mindedness, rationality, flexibility, and intellectual honesty is also stressed. A home which fosters thinking skills is described as one in which the family works together to solve problems. Suggestions are also offered for fostering children's metacognitive skills by prompts and questions that help them to monitor and evaluate their own thinking. General guidelines for nurturing thinking as well as criteria for classroom thoughtfulness are listed. (DB)

Reproductions supplied by EDRS are the best that can be made
from the original document.

ED 461 201

PENNSYLVANIA ASSOCIATION FOR GIFTED EDUCATION

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL HAS BEEN GRANTED BY
M. Waldspurger
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
1

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
☐ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

Bulletin --

Developing Thinking in the Gifted

Pennsylvania Association for Gifted Education (since 1953)
Affiliate Chapter of the National Association of Gifted

A Special Pennsylvania Association for Gifted EducationPublication

by Anthony J. Le Storti, Director, Center for Creative Studies, GwyneddMercyCollege

Anthony Le Storti is Assistant Professor and Director of the Centerfor Creative Studies at Gwynedd-Mercy College and Executive Consultantfor IDEATECTS, a Doylestown-based consultant firm that focuses on the developmentof cognitive skills, leadership and teamwork.

Improving Thinking in the Gifted

Gifted children offer special challenges in thinking skills development.Their gifts and talents cause us to believe that they already are goodthinkers and that our work is to provide educational and developmentalexperiences that expose them to greater breadth and depth of content. Inother words, we need to give them more to think about. But contemporarytheory and research on the brain, intelligence, learning styles, etc. indicatethat we have areas of natural strength and ability and other areas whereour abilities are in need of development. And research in the area of expertiseindicates that even gifted performers must pass through a number of necessarydevelopmental stages to move from novice to expert.

The point is, while gifted children are on a fast track to mastery,that journey will likely require considerable advice, instruction and encouragementfrom parents and teachers. Gifted children have much to learn in orderto maximize the development of their tremendous potential.

EC 305 863

BEST COPY AVAILABLE

This learning should not be limited to acquiring more content or subjectmatter knowledge. It must include the development of powerful process (thinking)skills as well as the personal traits and dispositions that energize thegood thinker.

Helping Children to Think

In order to help children to think, we must first let them think. As earlyas their development and maturity permit (relatively early for many giftedchildren), they should not only be allowed, but encouraged to solve theirown problems and make their own decisions. Parental guidance is of coursecalled for, especially with younger children.

How can this be done without great preparation? Don't respond with solutionswhen children ask, "What should I do about X ?" Instead, answer with evocativequestions. ("What have you thought about doing?" or "What are all the thingsyou could do?") Guide them as they solve their problems on their own. Itkeeps the ownership of the problem clear, and it encourages thoughtfuland responsible action.

When they ask you to make decisions for them ("What course should Itake?" or "What should I wear today?"), resist making the choice for them.Again, lead them as they move through the decision making process. Evocativequestions can again be helpful. You could ask, "What goals do you have?"or "What's important to consider in choosing a course (or getting dressed)?"

In *Developing Talent in Young People,* Benjamin Bloom and hiscolleagues wrote that the development from novice to expert requires "enormousmotivation, much support from family, the best teachers and role modelspossible, much time and a singleness of purpose and dedication.

Problem Solving Decision Making1. Finding the Problem

Critical and Creative Thinking

We often hear about "critical thinking" or "creative thinking," and thereseems to be a general affirmation that these are good things to develop.But these concepts are somewhat fuzzy, and that fuzziness is troublesomefor the parent, the teacher, and the student focusing on developing thinkingabilities. How does one teach or learn critical thinking if it is not clearwhat critical thinking is? Let's define these terms.

- "Critical" derives from the Greek *kritikos* which means able todiscern or judge. Critical thinking, then, is thinking oriented to thedetermination of the authenticity, accuracy, or value of a propositionor product. We are critical thinkers when we evaluate whether somethingis true or false, better or worse, correct or incorrect. We aid childrenin the development of their critical abilities when we teach them how toevaluate their own independent project, determine whether a politicianor a

television commercial is credible, and judge whether a painting ora piece of writing has artistic merit.

- On the other hand, creative thinking is thinking oriented to the formationand production of a novel and meaningful idea or product. When the creativeprocess results in a new form, we often label it "invention" or "composition."When the creative process reveals a new pattern or concept, we call it"discovery." In either case, the thinker must learn to sense problems andopportunities, to define them in an insightful fashion, to generate novelalternatives, to select the most promising of these alternatives, and toverify that the result "works," that is, meets whatever standards are appropriate.We help gifted children to develop their creative abilities when we respondconstructively to their tremendous curiosity, when we encourage their experimentsand artistic endeavors, and, importantly, when we teach them that set backsare part of the creative process.

One can see that these two types of thinking are not mutually exclusive.They are complementary powers of the human intellect-- the ability togenerate and the ability to judge. In fact, good thinkers continuouslyblend both types of thinking in accomplishing their personal and professionalgoals.

Prompts for Thinking

The following are examples of questions that could be used to prompt creative,divergent thinking:

- In what ways might we X?
- What if X?
- How else could one X?
- What hypothesis can you suggest to explain X?
- What will ____ be like in the future?
- How would a dentist, an athlete, etc. solve this problem?

The following could be used as prompts for critical, analytical thinking:

- Explain your reasoning.
- Why do you think that?
- Can you defend your position?
- What are the parts that make up this problem (situation, etc.)?
- What criteria or tests should we use in this case?
- What do you think caused that?
- How might we prove/disprove that?
- Explain what the other side's position is.

Traits and Dispositions

In addition to helping children with thinking strategies such as problemsolving and decision making and with the creative and critical aspectsof thinking, it will be crucially important for parents and teachers toengender in children the personality traits, motivations and dispositionsthat energize good thinking. Knowing the material in a content area isimportant, and knowing the steps of good thinking strategies is also important.Without the proper attitudes and motivations, however, those things remainlargely inert.

But when we aid and encourage gifted children to power their thinkingwith persistence, open-mindedness, rationality, flexibility, courage, intellectualhonesty, and an orientation to excellence, then they animate their contentand process knowledge. They enliven and direct their abilities and actualizetheir remarkable potential.

The Thinking Environment

If we intend to help children to become better thinkers, we must, almostliterally, set the stage for thinking; that is, we must create and maintaina "thinking environment."

Some aspects of the thinking environment are physical: children needto be able to concentrate, to have the resources that aid their thinking,to eat well and get sufficient rest, etc. Many of the aspects of a thinkingenvironment, however, are psychological. The home or classroom needs toprovide a physical and psychological security. It should be an environmentof mutual respect, of encouragement, of humor, of openmindedness. Theremust be a recognition of the dignity of the individual and of the rightof the individual to develop as an independent thinker.

While children help to shape their environments, the authority figurespresent (parents, teachers, administrators) have great power to promoteor inhibit thoughtfulness. As indicated previously, these adult authoritiesneed to be models of good thinking. They need to kindle in children themotivations and traits of thoughtful individuals. And they must permitand encourage growth in thinking. We see too many examples of adult studentsand professionals who still look to authority figures for permission tothink.

Unfortunately, it is a lot easier to say "While you're living in thishouse, you'll do as I say," than it is to patiently work together to solveproblems. It is easier to be directive and to tell children what to dothan it is to offer advice and then be willing to accept their decisions.Of course, the maturity and development of the child are important factorsthat must be considered. But we must recognize that our roles are to "launch"the children in our care onto their own independent journeys. And in thattask, it is better to start earlier rather than later.

Metacognition

The thinking that we engage in to acquire or generate meaning and/or productsis called cognition. But humans have the remarkable ability to think abouttheir own thinking, to think at a higher, or meta-, level. Metacognitionis that higher level of mental functioning used for planning, directing,monitoring and evaluating our own thinking.

Metacognition is related to greater cognitive achievement and development.Gifted children, who may naturally be more introspective and self-aware,can benefit from focusing their attention on the quality of their thinking.We can aid their efforts to become self-directed and self-evaluative thinkersby helping them become aware of their metacognitive ability, by assistingthem in planning their thinking, and by providing them with guidelinesfor good thinking. We further help to develop their metacognition by providingprompts and questions that help them to monitor and evaluate their thinkingwhile in progress, by "debriefing" or discussing with them the thinkingthey did in completing a project, and, importantly, by providing them withexamples of these important processes.

By sharing how you think in order to accomplish important tasks, bysolving problems out loud and showing how you deal with the complexitiesof solving a problem or making a decision (to include how you handle wrongturns and mistakes), you provide some important insights and examples ofhow a mature and accomplished thinker goes about their work.

Developing Metacognition

Metacognition is our ability to think about our own thinking- to planit, monitor it, evaluate it. A parent or teacher can help a child to developthese abilities by:

- modeling or thinking aloud
- asking the child to think aloud
- guiding students in developing a thinking plan
- helping them to assess and critique their thinking

Additionally, parents or teachers can prompt children with questions likethe following :

- What is your purpose or goal?
- What kind of end-product do you want to have?
- What kind of problem is this?
- What is your plan?
- What do you know/not know about this?
- What standards will you use to judge your work?
- What was strong/weak about your thinking?

- What did you learn for the future?

Guidelines for Nurturing Thinking

1. Establish and maintain a general atmosphere that promotes thinking.
   - Encourage thoughtfulness.
   - Allow for humor.
   - Discuss subjects in depth.

2. Be a model of thoughtfulness.

   - Demonstrate the traits of a good thinker.
   - Share how you think, plan, decide, etc.

3. Work to remove the blocks that limit critical and creative thinking inchildren.

4. Use prompts and questions that promote and develop thinking ability.
   - Use divergent questioning.
   - Allow children time to think before answering questions or during discussions.
   - Be accepting without praising.

5. Teach thinking strategies and techniques.

6. Make formal use of strategies and techniques when doing family or classproblem solving and decision making.

7. Help children to build on failure.

8. Help children to develop self-evaluation skills.

9. Encourage students to express positive self-statements about their thinkingability.

10. Teach and model open-mindedness.

Criteria for Classroom Thoughtfulness

- There is a sustained examination of a few topics rather than superficialcoverage of many.
- There is a sense of coherence and continuity.
- Students are given an appropriate amount of time to think and respond.
- The teacher asks challenging questions or structures challenging tasks.
- The teacher is a model of thoughtfulness.
- Students offer explanations and reasons for their conclusions.

Source: Fred M. Newman, "Qualities of Thoughtful Social Studies Classes:An Empirical Profile," Journal of Curriculum Studies, V. 22 n. 3, p. 25375,May-June, 1990.

Recommended Reading

Developing Minds: A Resource Book for Teaching Thinking ArthurCosta (Ed.), ASCD, Alexandria, VA, 1985.

Dimensions of Thinking: A Framework for Curriculum and Instruction,Marzano, et. al., ASCD, Alexandria, VA, 1987.

Growing Up Creative: Nurturing a Lifetime of Creativity, TeresaAmabile, Crown Publishers, NY, 1989.

Effective Questions to Strengthen Thinking Marilyn A. Brown,Foxtail Press, La Habra, CA, 1986.

Practical Strategies for the Teaching of Thinking, Barry Beyer,Allyn & Bacon, Boston, 1987.

Techniques for Teaching Thinking, Costa & Lowery, MidwestPublications, Pacific Grove, CA, 1989.

For additional information about PAGE, contact:

Pennsylvania Association for Gifted Education
3026 Potshop Road
Norristown, PA 19403
PAGE HELPLINE: 717-774-0476
Email: rp06@lehigh.edu

Please send any comments, additions, or suggestionsabout this web site to rp06@lehigh.edu.

This document reprinted by permission of PennsylvaniaAssociation for Gifted Education (PAGE). Permission to redistribute thisdocument for educational or advocacy purposes is granted, provided thatno fee is charged (not even to cover costs).

[HOME] Returnto PAGE Main Page